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Review of NASA Nebraska Space Grant Native American Effort - NASA Space Grant Briefing (Dryden)

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Review of NASA Nebraska Space Grant Native American Effort

Aeronautics Working Group

NASA Dryden

October 17, 1997

Dr. Hank Lehrer, Nebraska Space Grant

During that last year, great strides have been made in the Native American outreach activities of the NASA Nebraska Space Grant Consortium. This report will consist of the following sections:

- \$ **Philosophical Underpinning**
- \$ **A Chronology of Change**
- \$ **Intra-state Activities**
- \$ **Inter-state Efforts**
- \$ **Western Region Programs**
- \$ **Proposal Writing Workshop**
- \$ **NASA Aeronautics Day**

Each of the sections will contain illustrative activities for each area.

- # **Philosophical Underpinning:** The NE Native American outreach program is based on the following philosophical underpinning.

A Recent reports document that high dropout rates and low academic achievement by American Indian students stem in part from a pervasive disregard for cultural relevancy in the education of American Indian students. In particular, positive early and middle school experiences in science and mathematics are essential to preparing young Indian people for science and engineering careers@ (Task Force, 1989). Thus, a meaningful educational program for Native Americans should:

1. Account for the Western (mechanistic) versus Indian (holistic) view on science
2. Frame Indian science in terms of the practical and relevant
3. Approach science education from a hands-on, inquiry-based, and cooperative learning focus rather than the usual teacher-directed, indirect experience, verbal expression, and linear approach currently being used
4. Strive to decrease the high turnover rate amongst teachers in reservation schools
5. Better publicize the existence of Native American role models in the sciences
6. Make the study of mathematics and science more appealing to Native American students

7. Assist students who speak Indian-English dialect to better understand the nuances of the English language (National Science Foundation (1995).

Source: Educating American Indian/Alaska Native Elementary and Secondary Students: Guideline for Mathematics, Science and Technology Programs. pp. 31 - 35.).

A Chronology for Change: The following events have a direct correlation to this entire Nebraska Native American initiative. Each of these events added both formative and summative impact to the effort.

1. May 1996: SG/EPSCoR conference hosts tribally controlled colleges in Williamsburg, VA.
2. October 12, 1996: AIHEC meeting in Rapid City, SD hosts SG Directors from SD, NE, MN, and MT.
3. October 19, 1996: President Clinton signs Executive Order 13021 addressing the needs of Tribal Colleges and Universities.
4. November 8, 1996: Formation of the Western Region Native American Working Group in Santa Fe, NM.
5. February 16, 1997: Formation of the Nebraska Native American Working Group in Omaha, NE.

Intra-State Activities (two tribal colleges and 4 tribal school districts)

1. Formation of Nebraska Native American Working Group on February 26, 1997.
2. Preparation of Memorandum of Understanding (MOU) between UNO and Nebraska Indian Community College (NICC) and Little Priest Tribal College; these agreements are still at the discussion stages.
3. Awarding of Organizational Enhancement Grants to tribal colleges.
4. Awarding of ACE Academy Scholarships to tribal public school district.
5. Awarding of NASA scholarships to tribal colleges and schools.
6. Agreement to continue to work jointly on future projects.
7. A June 1997 meeting of the Nebraska Native American working Group in S. Sioux City, NE.
8. Hosting a for NASA/Nebraska Space Grant proposal writing workshop in Norfolk, NE on September 5, 1996; this initiative will be covered later in this report.
9. Hosting a NASA Aeronautics Day for Native Americans at the Sioux City, IA Airport on September 29, 1997; this initiative will be covered later in this report.

Interstate Efforts (NE, KS, and SD)

1. Dialogue between states has begun; a Memorandum of Understanding between NE and SD is about to be signed.

2. Goal is to use the NE effort as a Model of Best Practice for a three state program.
3. Plan is to meet at a later date in a central location.
4. Several joint projects (Kites over the Great Plains and Reservation Weather Stations) are in the discussion stage with NE and SD.

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Western Region Programs

1. Establishment of the Native American Working Group (NAWG) on November 8, 1997; activities re-affirmed at the National Space Grant Directors meeting in Washington in March. This group will meet at the western region meeting in ID in November.
2. The NAWG has begun work on:
 - # WWW homepage and website
 - # NA database
 - # Collection of aerospace/aeronautics career information

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Proposal Writing Workshop

The first Proposal Writing Workshop was held in Norfolk, NE on Saturday September 6, 1997 from 9:00am to 3:15pm at the Ramada Inn. The landmark event is being funded by a grant from the Nebraska EPSCoR/Space Grant. The invitation for the workshop went to member institutions of the Nebraska Native American Working Group (two tribal colleges and four reservation schools).

Each of the institutions could send four participants (selected by the president or superintendent from school faculty and staff) to this workshop; each of these individuals received a \$50 travel honorarium for attending. Additional seats were available on a limited basis. A total of 21 people attended; representation across school/university demographics was varied and included one president, several administrators, teachers, and support staff.

In a post-workshop evaluation survey, over 78% of the attendees indicated that they could now write a small grant proposal. However, there was strong sentiment for an additional workshop during the coming school year. Such an event is in the pre-planning stages. The agenda for the day is contained on the following page.

Proposal Writing Workshop
 Funded by
 NASA Nebraska Space Grant & EPSCoR
 Executive Board Room: Ramada Inn
 Norfolk, NE
 Saturday, September 6, 1997
 9:00 am to 3:15 pm

9:00 am	Welcome	
9:15 - 10:00 am	Grants Writing Overview	Dr. Hank Lehrer UNOAI
I	Types of Proposal	
I	The Function of a Proposal	
I	Proposal Components	
10:00 - 10:45 am	Writing Skills Review	Michaela Schaaf NE Space Grant
I	Space Grant/EPSCoR Overview	
I	Questions of Form, Style, Ethics, and Procedures	
I	Taking Pen in Hand	
I	Developing Clear Goals and Objectives	
10:45 - 11:00 am	Break	
11:00 - 12:00 noon	Responding to RFPs	Sara Woods CPACS
I	The importance of responsiveness	
I	Understanding the lingo	
I	Getting more information and forms	
I	Program contacts, due dates and other key information	
I	Review of sample RFPs	
12:00 - 1:00 pm	Lunch on your own	
1:00 - 1:45 pm	Proposal Development	Staff
I	Funding Sources	
I	Budgets (components, cost sharing, narratives)	
I	Evaluation of Proposals	
I	Post-grant Management	
1:45 - 2:00 pm	Formation of Working Groups	
	Break	
2:00 - 3:00 pm	Working Group Proposal Development	
3:00 - 3:15 pm	Closing Remarks	

It is envisioned that by the end of the day, each participant will be able to develop the shell of a fundable travel or planning research proposal. During the working group section of the activities, team leaders will assist individuals in preparing such proposals.

NASA Aeronautics Day

The first NASA Aeronautics Day sponsored by the NASA Nebraska Space Grant and EPSCoR took place on Monday September 29, 1997 at the Sioux Gateway Airport in Sioux City. The day began at 10:00 am when 203 5th and 6th grade Native American students and their teachers arrived by school bus at the airport. The participating reservation schools were from Walthill, Winnebago, Macy, and Santee, Nebraska. Each group was escorted for the day by a NASA Graduate Research Fellow.

The airport hosts for the day were Jetsun Aviation, TW Express, FAA Air Traffic Control Tower, Northwest Airlines, Sioux Gateway Airport Authority, the 185th Air Guard Fighter Wing, and University of Nebraska at Omaha Aviation Institute. Everyone enjoyed a picnic lunch furnished by Jetsun. During the day, the children saw airplanes, maintenance operations, air traffic control activities, air carrier operations, baggage handling, simulators, aircraft rescue and firefighting, and just about everything one might see on a busy airport.

The message that was featured throughout the day at most of the visitation sites was stay in school, do well (particularly in math and science), have nothing to do with drugs and alcohol, and work hard at your studies. Following a refreshment treat at 3:00 pm by FAA, everyone - including the teachers and all those that had worked so hard on this exciting project - returned home tired but happy.

There is one immediate follow-on activity. The students will be writing letters expressing what they found interesting at the airport. The letters will be sent to the Aviation Institute where they will be copied, bound, and sent to each of the airport sponsors, each school library, and to key NASA administrators. Numerous pictures were taken that will be shared at the NASA western region meeting and which will become part of the NASA Nebraska Space Grant and EPSCoR web site.

What a fulfilling endeavor this was for all of us.

The following is the agenda for the day. The schools groups were divided into three groups and each group rotated around the airport during the event. All students saw each area but at different times.

NASA Aeronautics Day
 Sioux Gateway Airport
 Sioux City, IA
 Monday September 29, 1997
 10:00 am to 3:00 pm

Tentative Schedule

10:00 am	Welcome	Jetsun Aviation
10:15 - 11:15am	General Aviation General Aviation Flight Operations Aviation and Avionics Maintenance and Repair Airplane Static Display	Jetsun Aviation
11:30am - 12:15 pm	Lunch	Jetsun Aviation
12:30 - 1:30 pm	Airlines Ticketing and Reservation Baggage Handling Passenger Screening Air Traffic Control Tower Operations and Communications Radar Service Airport Lighting	Main Terminal FAA Tower/Tracon
1:45 - 2:45 pm	Military Aviation F -16 Aircraft Military Aircraft and Electronic Systems Maintenance Aircraft Dispatch and Meteorology Survival Gear and Simulation	Iowa Air Guard
2:45 - 3:00 pm	Departure	Jet Sun Aviation